

2/3 018 UNCLASSIFIED PROCESSING DATE--16OCT70  
 CIRC ACCESSION NO--AP0119004  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF THE TEMP. AND THE HOLDING TIME AT TEMP. IN THE FUSED STATE ON THE ELEC. COND. OF CRYST. AND LIQ. SE (WITH VARIOUS AMTS. OF CL, I, AND O PRESENT) WAS INVESTIGATED. THE TEMP. DEPENDENCE OF ELEC. COND. FOR CRYST. AND LIQ. SE SAMPLES CONTG. CL IMPURITY DIFFERS SIGNIFICANTLY FROM THE TEMP. DEPENDENCE OF ELEC. COND. FOR PURE SE. THE ELEC. COND. OF SE CONTG. 0.01PERCENT CL PRESENT IN THE LIQ. STATE VARIES WITH THE TEMP. IN THE VERY SAME WAY AS IT DOES FOR PURE SE, EXCEPT WITH DIFFERENT ACTIVATION ENERGY ( $\Delta E$  APPROXIMATELY EQUAL TO 1.6 VS.  $\Delta E$  APPROXIMATELY EQUAL TO 1.9 EV). THE DECREASE IN THE ELEC. COND. OF SE SAMPLES CONTG. 0.025 AND 0.05PERCENT CL AT 350-550DEGREES IS CAUSED BY THE VOLATILIZATION OF THE IMPURITIES AT THESE TEMPS. THE PATTERN IS THE SAME FOR LIQ. SE CONTG. I IMPURITY (ONLY AT GREATER THAN SIMILAR TO 500DEGREES). THE OTHER PROPOSITIONS DO NOT APPLY, AND THE REASONS WHY THEY DO NOT ARE PRESENTED. UPON THE MELTING OF CRYST. SE THE LONG RANGE ORDER SOMEHOW REMAINS PRESERVED, WHICH IS WHY IMPURITIES IN SE PLAY A SIGNIFICANT ROLE. AS A RESULT OF THIS THE ELEC. COND. OF LIQ. SE CONTG. A LARGE AMT. OF CL PRESENT IS ALWAYS LARGER THAN THE ELEC. COND. OF PURE SE. THE ELEC. COND. OF CRYST. SAMPLES OF SE CONTG. SUCH VOLATILIZING IMPURITIES AS CL, I, O, AND BR AT THE GIVEN TEMP. WILL BE STRONGLY DEPENDENT ON THE TEMP. AT WHICH LIQ. SE WAS PRESENT, AS WELL AS ON THE HOLDING TIME AT THIS TEMP. AND THE FREE VOL. OF THE SAMPLES. WITH INCREASING TEMP. OF PREPN. OF THE SAMPLES THE ELEC. COND. OF CRYST. SE CONTG. CL, I, AND O IMPURITIES 1ST INSIGNIFICANTLY INCREASES AND THEN DECREASES.

UNCLASSIFIED

1/3 018 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--ELECTRICAL CONDUCTIVITY OF LIQUID AND CRYSTALLINE SELENIUM  
CONTAINING CHLORINE, IODINE, AND OXYGEN IMPURITIES -U-  
AUTHOR-(03)-AKHUNDOVA, E.G., ABDINOV, D.SH., ALIYEV, G.M.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 372-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ELECTRIC CONDUCTIVITY, CHLORINE, IODINE, OXYGEN, SELENIUM,  
BROMINE, CRYSTAL, FLUID STATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1996/0025 STEP NO--UR/0363/70/006/002/0372/0374  
CIRC ACCESSION NO--AP0118004  
UNCLASSIFIED

USSR

UDC 616.988.73:636.5-022.39:595.42

AKHUNDOVA, E. D., and TENSKIKH, I. I., Institute of Experimental Microbiology and Virology, Baku, and Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"The Role of Avian Ticks *Anas persicus* and *Ornithodoros coniceps* in Infecting Birds. Experimental Transmission of Infection to Chicks"

Moscow, Voprosy Virusologii, No 6, 1972, pp 712-713

Abstract: The possibility that avian parasites *A. persicus* and *O. coniceps* may act as ornithosis reservoirs and transmitters was studied by infecting the ticks with the pathogen and 4 months later allowing them to feed on chicks. The latter manifested disease symptoms in 8-10 days. Organ suspensions from them were lethal to mice on the first passage and produced typical ornithosis agent inclusions in chick embryo fibroblast cells. An infectious titer was maintained in ticks for not less than 6 months with insignificant reduction after 4 months. Thus these ticks are implicated in ornithosis transmission and in maintaining infection foci.

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Vector Studies

USSR

UDC 576.858.73.095.38:576.895.42

TERSKIKH, I. I., and AKHUNDOVA, E. D., Institute of Virology imeni D. I. Ivanovskiy, Moscow

"Development of Ornithosis Agent in the Bodies of the Ticks *A. persicus* and *O. coniceps*"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 458-460

Abstract: The possibility that *A. persicus* and *O. coniceps*, parasites of birds associated with humans, could be ornithosis reservoirs was tested by infecting them parenterally with Lori strain ornithosis agent or allowing them to feed on infected chick embryo chorio-allantoic membrane. In both cases the infectious titer increased intensively up to the 10th day, gradually leveled off to the 20th day, and remained stable up to the 30th day. Titers were consistently higher in ticks infected by feeding, rather than parenterally, either because they had received higher doses or because the agent reproduces more intensively when introduced naturally. The results indicate that these ticks may be reservoirs for ornithosis agent.

2/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70  
CIRC ACCESSION NO--AT0133216  
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. HG WAS DISPLACED WHEN THE PRESSURE WAS INCREASED, PRODUCING CLOSING OR BREAKING OF AN ELEC. CIRCUIT. THE LEVEL OF HG IS OBSD. THE APP. WAS RECOMMENDED FOR DETG. THE D. OF AROMATIC HYDROCARBONS, WATER, AND STEAM IS LESS THAN OR EQUAL TO 300 BARS. FOR PRESSURES IS LESS THAN OR EQUAL TO 600 BARS, THE HG SEAL LEVEL IS DETD. ELEC. SCHEMES OF THE APP. ARE PRESENTED. FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--INSPECTION PORT AND HIGH PRESSURE MERCURY SEAL FOR STUDYING THE  
THERMOPHYSICAL PROPERTIES OF SUBSTANCES -U-  
AUTHOR-(03)-AKHUNDOV, T.S., SAMBUR, KH.O., IMANOV, SH.YU.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(1), 112-13

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--SEAL, MERCURY, HIGH PRESSURE, PETROLEUM PROPERTY, AROMATIC  
HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1219

STEP NO--UR/0152/70/013/001/0112/0113

CIRC ACCESSION NO--AT0133216

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2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70  
CIRC ACCESSION NO--AT0119893  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VISCOSITY OF 99.96PERCENT  
TOLUENE WAS DETD. (A. M. MAMEDOV, ET AL., 1966) ON 11 ISOTHERMS AT  
23.76-275DEGREES AND PRESSURES SMALLER THAN 400 BARS. THE VISCOSITY  
WAS ALSO CALCD. IN THE SAME RANGE FOR EACH 10DEGREES AND 10 BARS BY  
MEANS OF AN EQUATION. THE DETN. ERROR WAS LESS THAN 1.2PERCENT.  
EXPTL. AND CALCD. DATA ARE PRESENTED. FACILITY: AZERB. INST.  
NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--TOLUENE VISCOSITY AT HIGH PRESSURES AND TEMPERATURES -J-  
AUTHOR-(03)-AKHUNDOV, T.S., ISMAILZADE, SH.M., TAIROV, A.D.  
COUNTRY OF INFO--USSR A  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT GAZ 1970, 13(2), 79-82  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--FLUID VISCOSITY, TOLUENE, HIGH PRESSURE, ISOTHERM  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1026 STEP NO--UR/0152/70/013/002/0079/0082  
CIRC ACCESSION NO--AT0119893  
UNCLASSIFIED

USSR

ABDULLAYEV, G. B., et al, Izvestiya Akademii nauk Azerbaydzhanskoy SSR, Seriya fiziko-tekhnikeskikh i matematicheskikh nauk, No. 4, 1970, pp 65-70

under illumination without external displacement is said to be direct support for the injection mechanism for the origin of inductance. It was established that the inversion voltage decreases almost linearly with an increase in the light intensity.

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- 71 -

Crystals & Semiconductors

USSR

ABDULLAYEV, G. B., ISKENDER-ZADE, Z. A., AKHUNDOV, M. R., DZHAFAROVA, E. A., ALIKHANOVA, Sh. A., Institute of Physics

"Reactive Properties of Diffusion Silicon Barrier-Layer Cells"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, No. 4, 1970, pp 65-70

Abstract: The reactive properties of diffusion silicon photocells in which a high level of injection was developed both by an external voltage and by illumination of the photocell by intense light in order to produce a high injection level on which the capacitance transforms into an inductance without the application of a constant external displacement by intense illumination or photoinjection are studied. An investigation of the barrier capacitance of p-Si barrier-layer cells at voltages 0-30 v, temperatures 273-370°K, and frequencies 5-600 kHz showed that the dependence of the capacitance on voltage is determined by a linear distribution of the electroactive admixture in the transition region with a concentration gradient  $(7-9) \cdot 10^{20} \text{ cm}^{-4}$ . It is shown that the capacitance of the cell under illumination and under the condition  $\omega \geq 1$  transforms into an inductance without external voltage. This transition of capacitance into inductance

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intended to be disseminated in use of the Code. Agency of origin is not to be identified, and is recommended as a condition. Not to be used - Foreign Institute of the International Academy of Statistics, 100 rue de la Paix, Paris, France, 102-200, No 2, 1971, Scientific Research, 1971, No 36-1971.

$$\frac{d}{dt} \left( \frac{1}{2} m v^2 \right) = \frac{1}{2} m \frac{d}{dt} (v^2) = \frac{1}{2} m \frac{d}{dt} (v_x^2 + v_y^2 + v_z^2)$$

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The goal of this paper is experimentally to check the validity of formula (1) indicating the linear dependence of  $\ln v$  on  $\Delta E^*$  to determine the

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USSR

UDC 616.981.455.084(479.24)

AKHUNDOV, M. G., IENCHITSKIY, A. Z., EYGELIS, Yu. K., MAMEDZADE, Yu. A.

"Evaluation of the Effectiveness of Antitularemia Measures in Azerbaydzhan and Problems With Respect to the Prevention of This Disease"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 6, 1972, pp 73-78

Abstract: In the Territory of the Azerbaydzhan SSR there are two active natural foci of tularemia: steppe and high-altitude stream. In some parts of the first of these foci, cases of this disease among humans were noted in 1964-1968. A significant number of preventive measures were undertaken in the republic: shooting rodents -- carriers of the disease -- controlling the disease carriers, general sanitation measures and mass vaccination of the population living in the territory of the natural foci.

The authors evaluate each of the indicated elements on the general level of preventive work and note specific problems for the future. The primary ones among these are the following: continuation of careful epizootological examination and investigation of the acquired material; protection of mass-use water supply; continuation of planned vaccination of the population; training of medical personnel; purposeful analysis of the national economic plans for transformation of nature. All of this will permit timely implementation of the measures aimed at protecting the residents of zones endangered by tularemia.

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2/2 036

UNCLASSIFIED

PRECEDENCE DATA: 14-0010

CIRC ACCESSION NO--AP0105179

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE EFFECTIVE MASS OF THE CONDUCTION CARRIERS IN SINGLE CRYSTAL SPECIMENS OF N TYPE ARSENIC WAS DETERMINED BY THE METHOD OF EQUALS 1.2 TIMES TO PRIME18-CM PRIME3 WAS DETD. FROM THE EXPERIMENTAL DISTRIBUTION OF THE REFLECTION IN THE IR REGION, AND FROM DATA ON THE THERMOEMF. AND THE HALL EFFECT IN A STRONG MAGNETIC FIELD. THE REFLECTION SPECTRA EXHIBITED A MIN. WHICH IS CHARACTERISTIC FOR DIRECT SEMICONDUCTORS. THE EFFECTIVE MASSES OBTAINED FROM OPTICAL AND ELECTRO MEASUREMENTS SHOW GOOD AGREEMENT. FACILITY: IND. 17, MOSCOW, USSR.

UNCLASSIFIED

~~APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900029-6~~

1/2 036 UNCLASSIFIED PROCESSING DATE--230C170  
TITLE--EFFECTIVE MASS OF CURRENT CARRIERS IN N-AG SUB2 TE -U-  
AUTHOR--(03)-KERIMOVA, T.G., ALIYEV, S.A., AKHUNDOV, G.A.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 400-1  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--SILVER COMPOUND, TELLURIDE, CARRIER DENSITY,  $\rho$ -REFLECTANCE,  
SINGLE CRYSTAL PROPERTY, THERMAL EMF, HALL EFFECT, STEADY MAGNETIC FIELD  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1988/0093 STEP NO--UR/04497/707-1/20-1/5416/0001  
CIRC ACCESSION NO--AP0105179  
UNCLASSIFIED

PHYSICS  
Crystals & Semiconductors

USSR

UDC 621.315.592

ABDULLAYEV, G. B., AKHUNDOV, G. A., AGAYEVA, A. A., SALMANOV, V. M., and YAROSHETSKIY, I. D. -- Azerbaydzhan State University imeni S. M. Kirov, Baku, and Physical-Technical Institute imeni A. F. Ioffe, USSR Academy of Sciences, Leningrad

"Recombination Radiation in Solid Solutions Under Neodymium Laser Excitation"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 7, No 6, Jun 73, pp 1108 - 1110

Abstract: The studies were made with  $\text{GaS}_{1-x}\text{Se}_x$ , where  $x$  was varied from 0.05 to 0.80. The crystals were grown by slow cooling with a constant temperature gradient; plane parallel sheets were then peeled off for testing at  $T = 77^\circ\text{K}$ . It was found that the two primary spectral bands, caused by the decay of free excitons with the release of 1 and 2 optical phonons respectively, were displaced smoothly with change in the crystal composition. Increasing the pumping power narrowed the bands and sharply increased intensity at the maxima (by a factor of  $W^n$ , where  $W$  is the pumping power and  $n$  varied from 4 to 7). The data indicates the availability of laser radiation from these crystals over a range from 4350 angstroms to 6000 angstroms.

USSR

UDC 615.787:612.014.46

SHIKHTYEV, I. A., AKHUNDOV, E. A., NOVSEYADE, E. M., ISAYEV, E. M., and  
KLUGYL', T. A.

"The Synthesis and Psychotropic Properties of Some Acetylene Derivatives of  
Phthalimide"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol 50, No 3, Mar 73, pp 14-18

Abstract: In earlier work by the authors of this article, the synthesis of 3-phthalimido-1-propyne and of some of its amino derivatives was investigated. In the present work the neuropharmacological characteristics of the compounds of this type that had been synthesized were subjected to study in experiments on white mice. The preliminary pharmacological study indicated that some of the compounds of this class resembled with respect to their activity tranquilizers of the unsaturated carbinol type such as ethchlorovinal, oblivon, and oblivon K.

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ILLEGIBLE

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USSR

AKHUND-ZADE, M. YU., et al, Izvestiya Akademii Nauk Azerbaydzhan-  
skoy SSR--Seriya fizikotekhnicheskikh i matematicheskikh nauk,  
1970, No 3, pp 138-143

computation of the shells' sturdiness by starting from one form of the equation of V. V. Novozhilov for the equilibrium of nonslanting cylindrical shells, by which they determine the bending moments, normal forces, and displacements. To show how the formulas they derive are used, they take a practical example.

USSR

AKHUND-ZADE, M. Yu., SHABANBEROV, Z. M., and MUSAYEV, Kh. I.

"Determining the Stresses in Characteristic Cross Sections of Non-Circular Reinforced Concrete Cylindrical Shells"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR--Seriya fiziko-tehnicheskikh i matematicheskikh nauk, 1970, No. 3. pp 138-143

Abstract: This article concerns itself with thin-walled structures widely used in shipbuilding, aviation, and rocketry, in addition to other forms of modern building techniques. Its function is to cast additional light on the physics underlying the phenomena occurring in the loading of reinforced concrete shell coverings, and just touch on some problems in architecture, economics and production. As is usual in the design of such shells, it is assumed that Hooke's law governs the uniform material of the shell all along the height of the cross section. The authors consider the

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USSR

UDC: 51

AKHUNDI, M. N., ABDUGAFAROV, A.

"Algorithm for Calculating Quotas in Construction Based on PERT Models"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works),  
vyp. 45, Tashkent, 1971, pp 46-52 (from RZh-Kibernetika, No 5, May 72,  
Abstract No 5V473)

[No abstract]

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USSR

AKHMEYEV, N. M., Sovetskoye Zdravookhraneniye Kirgizii, No 5, 1978, pp 10-25

3,200 meters. The blood loss in all the experiments was 1% of body weight.

Inflammation significantly inhibits erythropoiesis. The mechanism for this inhibition is probably the occurrence of certain substances which complicate the generation of biological simulators of hemostasis. This is indicated by experiments performed at 3,200 meters, wherein transcribing intact dogs to this altitude was accompanied by an increase in erythropoiesis, but against a background of inflammation even blood loss in the millions of RBC altitude hypoxia cannot provoke further increase in the erythropoiesis and size of the blood serum.

2/2

- 58 -

USSR

UDC 612.275.1+616-003.93+612.11/.12

AKHUNEYeva, N. M., Department of Pathophysiology of the Kirgossmedinstitut  
Institute

"Characteristic Features of Blood Regeneration After Blood Loss in Unoperated  
Animals Against a Background of Inflammation Under High Altitude Conditions"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 5, 1972, pp 39-43

Abstract: Manifestations of hemopoiesis inhibitors were studied in inflammatory  
anemia. In addition, considering that blood losses and hypoxia are powerful  
stimulators of the formation of erythropoietins, a study was made to discover  
that nature of blood regeneration after blood loss against a background of an  
inflammatory process under high altitude conditions (3,200 meters). Four  
series of experiments were performed on 28 dogs: 1) a study of the effect of the  
inflammatory process on blood regeneration and erythropoietic activity of the  
serum (7 dogs, control); 2) a series of experiments in which hemorrhaging was  
induced at the height of inflammatory leukocytosis and the same indexes were  
studied (7 dogs); 3) analysis studies were made on unoperated animals (the  
second and third days of the dogs on the Tuya-Ashu pass at an altitude of 3,500  
meters) and the nature of the course of inflammatory anemia was studied (7 dogs);  
4) blood loss was caused against a background of inflammation at an altitude of  
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USSR

UDC 539.3

AKHUBA, L. K.

"Analysis of the Stress State of Thin-Walled Systems With Circular Generatrices"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp. 82-85 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V151)

Translation: A folded shell of rotation with closed and open profiles is considered under the action of a uniformly distributed load. A system of ordinary differential equations relative to generalized longitudinal and transverse displacements that was previously obtained by the author is given. The problem of the effect of longitudinal and transverse displacements on the stress state of the shell is discussed. Yu. P. Artyukhin.

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105526

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL WAS STUDIED BY MEANS OF X RAY MICRO AND MACRODIAGRAMS GENERATED BY ADDED PRIME35 S AND PRIME32 P. THE FORMATION OF THE DBSD. FILAMENTARY, NEG., AND V SHAPED SEGREGATION REGIONS IS EXPLAINED BY THE FORMATION OF DENDRITES IN THE AXIAL ZONE. DENDRITE GROWTH IS FAVORED BY INCREASING AMTS. OF IMPURITIES AND DIMINISHED BY LOWERING THE RATIO MN:S.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--MECHANISM OF FORMATION OF AXIAL SEGREGATION IN CONTINUOUSLY CAST  
KILLED STEEL -U-  
AUTHOR--PALATNIK, L.S., AKHTYRSKIY, V.L. A  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 95-103  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--STEEL MICROSTRUCTURE, CHEMICAL REACTION MECHANISM, X RAY  
ANALYSIS, SULFUR, PHOSPHORUS, MANGANESE STEEL, ISOTOPE, KILLED STEEL,  
DENDRITE GROWTH  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0541 STEP NO--UR/0370/70/000/001/0025/0103  
CIRC ACCESSION NO--AP0105526  
UNCLASSIFIED

ILLEGIBLE

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USSR

UDC 539.3

AKHUBA, L. K.

"Analysis of the Stress State of Thin-Walled Systems With Circular Generatrices"

V sb. Raschet prostranstv. sistem v stroit. mekh. (Calculation of Three-Dimensional Systems in Structural Mechanics -- Collection of Works), Saratov, Saratov University, 1972, pp 82-85 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V151)

Translation: A folded shell of rotation with closed and open profiles is considered under the action of a uniformly distributed load. A system of ordinary differential equations relative to generalized longitudinal and transverse displacements that was previously obtained by the author is given. The problem of the effect of longitudinal and transverse displacements on the stress state of the shell is discussed. Yu. P. Artyukhin.

2/2 021

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105526

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL WAS STUDIED BY MEANS OF X RAY MICRO AND MACRODIAGRAMS GENERATED BY ADDED PRIME35 S AND PRIME32 P. THE FORMATION OF THE DBSD. FILAMENTARY, NEG., AND V SHAPED SEGREGATION REGIONS IS EXPLAINED BY THE FORMATION OF DENDRITES IN THE AXIAL ZONE. DENDRITE GROWTH IS FAVORED BY INCREASING AMTS. OF IMPURITIES AND DIMINISHED BY LOWERING THE RATIO MN:S.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--MECHANISM OF FORMATION OF AXIAL SEGREGATION IN CONTINUOUSLY CAST  
KILLED STEEL -U-  
AUTHOR--PALATNIK, L.S., AKHTYRSKIY, V.L. A  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 95-103  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--STEEL MICROSTRUCTURE, CHEMICAL REACTION MECHANISM, X RAY  
ANALYSIS, SULFUR, PHOSPHORUS, MANGANESE STEEL, ISOTOPE, KILLED STEEL,  
DENDRITE GROWTH  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0541 STEP NO--UR/0370/70/000/001/0025/0103  
CIRC ACCESSION NO--AP0105526  
UNCLASSIFIED

USSR

UDC 621.319.62(085.1)

ARHTYRSKIY, M., NOVOSHELDOV, G.P., FANTEL', I.S., BAKHOMOV, V.YA., BILICKY, S.D.,  
TIRSCOVA, I.D.

"Semiconductor Rectifier"

USSR Author's Certificate No. 246677, filed 22 Feb 66, published in Izv. Vsesoyuzn. nauch.-issled. inst. elektroniki i yeye prikladnyye, No 6, June 1970, Abstract No. 15647

Translation: The invention pertains to devices for protection from short-circuit currents with the aid of the anode and cathode switches of rectifiers, accomplished with the circuit "two reversible star connections with equalizing resistance coils." It is proposed to use three ordinary oil switches which are connected in pairs in the cathode circuits of the united rectifier (tubes) of opposite phases. Such a connection reduces the magnitude of the emergency circuit by use of the inductance of the converter transformer. With disconnecting of the cathode switches, the opportunity is eliminated for feeding the power supply for a defective phase from the side of the contact net and from the side of the other phases of the transformer. This makes it possible to use an oil switch. 1 ill. 1.R.

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Water Treatment

USSR

UDC 532.61

LYCHAGIN, N. I., and AKHTYAMOV, O. S., Nizhne-Tagil'sk Pedagogical Institute

"Surface Tension and Density of Magnetized Water"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 5, May 72, pp 1314-1315

Abstract: The surface tension and the density of water increase after magnetization. This change does not exceed 0.5%. Heat of evaporation increases after magnetization by about 0.3% under optimal conditions of magnetization. These changes are within the range of experimental error.

AKHROMENKO, Yu G.

SPS 1988  
C. 73

V. 2. MASS TRANSPORT RATE DURING CONGREGATION IN THE GAS TRANSPORT PROCESSES  
CONSIDERING HIGH TEMPERATURE CONDITIONS

[Article by V. A. Dronov, Yu. G. Akhromenko, L'vov; Novosibirsk, III Symposium  
on Problems of Science and Technology, 1979, p. 51]  
12-17 June, 1979, p. 51]

The modern theories of mass transport during crystallization from the  
gas phase using chemical transport reactions usually do not take into account  
the actual nature of the distribution of the thermal field between the source  
zone and the substrate which under the conditions of high temperature gradients  
can lead to significant errors. In order to eliminate this deficiency, the  
Curtiss-Herrenfelder equations which describe the diffusion mass transport in  
the transport system with an arbitrary number of transport reactions and gaseous  
components taking into account the arbitrary known temperature distribution  
in the diffusion section were solved. The solution obtained is applicable for  
analysis of limited diffusion of the mass transport rate in the "sandwich method"  
and closed systems. An analysis was made of a number of transport systems  
and the effect of the nature of the temperature field on the mass transfer of  
silicon and germanium is demonstrated.

USSR

NAVAKATIKYAN, A. O., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1971, pp 3-9

and 3). The article also discusses some of the theoretical and practical problems in establishing adequate criteria and in applying them to specific jobs, work conditions, and various groups of people (e.g., adolescents, females, elderly workers).

USSR

UDC 613.6:612.766.1

NAVAKATIKYAN, A. O., KUNDIYEV, Yu. I., AKHRIKENKO, A. P., MAKSIMOVA, O. F.  
VASILENKO, Yu. I., SAVENKO, N. P., BUZUNOV, V. A., TOMASHEVSKAYA, L. I., and  
DERKACH, V. S., Institute of Industrial Hygiene and Occupational Diseases,  
Kiev

"Principles for Quantitative Evaluation of the Difficulty and Strenuousness  
of Work on the Basis of Physiological Data"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1971, pp 3-9

Abstract: A four-level classification of jobs by difficulty and stress is proposed on the basis of research conducted by the Institute and the literature data. The criteria used to measure the amount of effort involved as well as the changes therein during the course of the workday include energy consumption (ranging from under 150 kcal/hour for class 1 work, e.g., computer programming, to 351 kcal/hour or more for class 4 work, e.g., steel casting), muscular, cardiovascular, central nervous, and endocrine functions. A table lists average values of several physiological functions in different kinds of work while another evaluates the difficulty and strenuousness of different kinds of jobs (e.g., operation of office machines is classified as class 1 in difficulty and class 2 in strenuousness, lathework 2 and 2, steel casting 4 1/2

Acc. Nr: **AP0045916** Abstracting Service: **5/70** Ref. Code:  
**INTERNAT. AEROSPACE ABST. UR 3663**

A70-22464 # Study of a stressed state in the region of stress raisers, within small elastic plastic strains (Issledovanie napriazhennogo sostoiianiia plastin s otverstiiami v oblasti malykh uprugoplasticheskikh deformatsii). I. A. Kozlov and V. L. Akhremenko (Akademiia Nauk Ukrainskoi SSR, Institut Problem Prochnosti, Kiev, Ukrainian SSR). *Problemy Prochnosti*, vol. 2, Jan 1970, p. 26-30. 5 refs. In Russian.

Experimental determination of a stressed state in the region of strain raisers (round holes) in a plate subjected to the two-axial tension associated with a plastic yield. Samples of the austenitic steel 1Kh18N9T and aluminum alloy D16T are taken into consideration. An analysis is made of the effect of the sample width on the stress coefficient around the hole. A method for determining the stress concentration at an arbitrary point of the plate weakened by stress raisers is described.

Z.W.

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USSR

KOZLOV, I. A., AKHREMENKO, V. L., Problemy Prochnosti, No 1, 1970, pp 26-30.

The authors also tested the samples under two-axis tension, with the ratios of the stresses involved equal to 1, 2 and 3. Here the concentration of stress was determined as the ratio of the intensity of stress at a given point to the intensity of stress which would have occurred at this point in the absence of a stress concentrator:

$$K_{\sigma}^* = \frac{\sigma_{ig}}{\sigma_i},$$

where

$$\sigma_i = \sqrt{\sigma_1^2 - \sigma_1\sigma_2 + \sigma_2^2};$$

$\sigma_{ig}$  is the intensity of stress found from the deformation diagrams  $\sigma_1 - \epsilon_1$ , constructed for various ratios of the primary stresses.

Tests were made on the aluminum samples at stress ratios of 1 and 2, with the larger stress applied along the axis of greater mechanical strength (the aluminum alloy has anisotropic mechanical properties on the order of 30%). The results showed that for the same values of  $\sigma_1$ , the concentrations of stress around the hole were 15-20% less in anisotropic material than in isotropic material.

2/2

USSR

UDC 620.172.2

KOZLOV, I. A., ~~AKHREMENKO, V. L.~~, Institute of Reliability Problems of the Academy of Sciences, UkrSSR

"An Investigation of the Stress State of Plates with Holes in an Area of Small Elastic-Plastic Deformation"

Kiev, Problemy Prochnosti, No 1, 1970, pp 26-30

Abstract: The authors stressed cruciform samples of 1Kh18N9T austenite steel and D16T aluminum alloy 2 mm thick, with holes 20 mm in diameter as stress concentrators. From single-axis tension, they obtained an expression for the relationship between the width of the sample, the hole diameter and the coefficient of stress concentration at the periphery of the hole, in the region of elastic deformation:

$$K_{\sigma} = \left( \frac{\sigma'_1}{\sigma_1} \right) \frac{b}{d} + \left( \frac{d}{b} \right)^3$$

where  $\sigma_1$  and  $\sigma'_1$  are the stress in the unweakened and most weakened cross sections respectively,  $b$  is the width of the sample,  $d$  is hole diameter. For samples with multiple holes arranged along a line perpendicular to the axis of tension,  $b$  is the distance between hole centers.

1/2

KOZLOV, I. A., et al, Problemy prochnosti, No. 8, Aug 71, pp 14-17

but that the breaking revolutions of the disc with a chamfer radius of 35 mm was only 20% greater (34,240 rev/min) than for a disc with a chamfer radius of 5 mm. This slight increase is explained by the fact that the material redistributes the stresses well in the region of plastic deformation and the carrying capacity is basically characterized by the area of the transverse cross section, which with a fixed external diameter and hub diameter and with a variable chamfer radius increases parabolically. Since destruction of all models began in the zone of maximum stress at the chamfer, total balancing of stresses did not occur at the time of breaking. It is concluded from the study that the radius of the chamfer has a considerable effect on the carrying capacity of discs made only from brittle or low-plastic materials since the greatest stresses in the disc ordinarily arise in this region considering the coefficient of stress concentration.

USSR

UDC 539.4.013

KOZLOV, I. A., GORODETSKIY, V. N., AKHREMENKO, V. L., Institute of Problems of Strength, Academy of Sciences UkrSSR, Kiev

"Study of the Stress State in Chamfers of Discs"

Kiev, Problemy prochnosti, No. 8, Aug 71, pp 14-17

Abstract: A stress concentrator in the form of a chamfer was studied as a function of its radius and the effect of the radius of the chamfer on the bearing capacity of the disc. The experiments were conducted on discs with an external diameter of 245 mm with a hub diameter of 60 mm and a central opening diameter of 30 mm. The ratio of the thickness of the disc to the diameter was 0.012. Five models of the disc were made with chamfer radii of 5, 10, 15, 25 and 35 mm. The discs were made of St. 5 steel with a strength limit  $\sigma_B = 94 \text{ kg/mm}^2$  and  $\delta_{10} = 16.5\%$ . All measurements were made in the elastic region of deformation at 12,000 rev/min at normal temperatures. The breaking revolutions of the discs are shown as the ratio of the maximum revolutions of the disc to the maximum revolutions of a disc with a chamfer radius of 5 mm. It was found that the carrying capacity of discs increases with an increase in the chamfer radius

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USSR

2/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70  
 CIRC ACCESSION NO--AP0200275  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGENATION OF ENDO, ANHYDRIDES OF 7, SYN, METHYL, AND 7, ANTI, METHYLBICYCLO (2.2.1) HEPTANE, 5, 6, DICARBOXYLIC ACIDS WAS STUDIED KINETICALLY: THE SYN ISOMER WAS HYDROGENATED AT ABOUT HALF THE RATE DISPLAYED BY THE ANTI ISOMER OR BY THE UNSUBSTITUTED ANHYDRIDE. THE HYDROGENATION MIXT. FROM THE SYN ISOMER GAVE 7, SYN, METHYLBICYCLO (2.2.1) HEPTANE, 5, 6, DICARBOXYLIC ANHYDRIDE, M. 122 TO 3DEGREES, WHICH HYDROLYZED TO FREE DICARBOXYLIC ACID, DECOMPD. 178 TO 9DEGREES (DI ME ESTER, B SUB2 48 TO 9DEGREES, N PRIME20 SUBD 1.4933, WAS PREPD. WITH CH SUB2 N SUB2). SIMILARLY THE ANTI ISOMER WAS HYDROGENATED TO THE SATD. ANALOG, M. 134 TO 60DEGREES, WHICH GAVE THE FREE 7, ANTI, METHYLBICYCLO (2.2.1) HEPTANE, 5, 6, DICARBOXYLIC ACID, DECOMPD. 169 TO 71DEGREES. NMR AND IR SPECTRAL CURVES WERE SHOWN. THE CONFIGURATION OF THE SUBSTITUENT IN THE 7 POSITION IN THE BICYCLOHEPTENE SKELETON CAN BE CONVENIENTLY DETD. BY THE DETN. OF RELATIVE RATES OF HYDROGENATION.

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UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--CYCLIC UNSATURATED COMPOUNDS. 31. CONVENIENT METHOD FOR DETERMINING  
SUBSTITUENT CONFIGURATION IN POSITION SEVEN OF THE NORBORNENE SKELETON  
AUTHOR--MIKOS, E.P., FADEYEVA, T.M., AKHREM, A.A., MIRONOV, V.A.,  
POLKOVNIKOV, R.D.  
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, SER. KHIM, 1970, (1), 122-34

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANHYDRIDE, DICARBOXYLIC ACID, CYCLIC GROUP, HEPTENE,  
HYDROGENATION, THERMAL DECOMPOSITION, NMR SPECTRUM, IR SPECTRUM,  
CHEMICAL KINETICS, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY PEEL/FRAE--1984/2671

STEP NO--UP/0062/70/000/001/0123/0124

CIRC ACCESSION NO--AP0200275  
ZZZZZZZZZZZZ UNCLASSIFIED

3/3 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131084

ABSTRACT/EXTRACT--1A AND AL (OCHME SUB2) SUB3 IN MEPH REFLUXED 4 HR IN THE PRESENCE OF CYCLOHEXANONE GAVE 16 ALPHA, 17 ALPHA CYCLOPENTYLIENEDIOXYPROGESTERONE, M. 173-4DEGREES, ALSO FORMED FROM 1A AND CRD SUB3 IN ME SUB2 CO-H SUB2 SO SUB4 AT MINUS 100DEGREES UNDER N, THEN HEATING THE PRODUCT WITH MECH AND KOH. SIMILARLY WAS PREPD. THE 16 ALPHA, 17 ALPHA CYCLOHEXYLIENEDIOXY ANALOG, M. 135-90DEGREES, AND THE CYCLOHEPTYLIENE ANALOG, M. 148-90DEGREES. FACILITY: INST. ORG. KHIM. 14. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

2/3 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131084

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KEEPING PREGN-5-ENE-3 BETA, 16 ALPHA, 17 ALPHA TRIOL-20 ONE 16 ACETATE 3 DAYS WITH CYCLOPENTANONE IN DIOXANE IN THE PRESENCE OF 70PERCENT HCLD SUB4 GAVE SIMILAR TO 60PERCENT 16 ALPHA, 17 ALPHA CYCLOPENTYLIDENEDIOXY PREGN 5 EN 3 BETA OL 20 ONE (IA), M. 211.5-12.5DEGREES. WITH CYCLOHEXANONE THE PRODUCT WAS THE CYCLOHEXYLIDENEDIOXY ANALOG, M. 189-91DEGREES, WHILE CYCLOHEPTANONE GAVE THE CYCLOHEPTYLIDENEDIOXY ANALOG, M. 185-7DEGREES. 16 ALPHA, 17 ALPHA EPOXYPROGESTERONE (I) AND ETO SUB2 CNHHH SUB2 IN ACOH DIOXANE GAVE THE 3,20 BIS(CARBETHOXYHYDRAZONE), DECONPD. 300DEGREES, WHICH WITH PYRUVIC ACID IN ACOH AT 100DEGREES 20 MIN GAVE I. I TREATED WITH ETO SUB2 CNHHH SUB2 AS ABOVE 2 HR IN ACOH AT 85DEGREES, THEN TREATED WITH H SUB2 O, FOLLOWED TO ACOH AND AQ. PYRUVIC ACID AT 100DEGREES, GAVE 16 ALPHA ACETOXY 17 ALPHA HYDROXYPROGESTERONE, M. 172-4DEGREES, WHICH WITH AQ. MEON-K SUB2 CO SUB3 IN 1 HR GAVE 16 ALPHA, 17 ALPHA DIHYDROXYPROGESTERONE, M. 204-10DEGREES, WHICH IN A QUARTZ TUBE HELD AT ITS M. P. 0.5 HR GAVE THE THERMAL ISOMERIZATION PRODUCT 17 ALPHA BETA METHYL D HOMOANDROST 4 ENE 16 ALPHA, 17 A ALPHA DIOL 3,17 DIONE (II), M. 138-92DEGREES. 16 ALPHA, 17 ALPHA ISOPROPYLIDENEDIOXY PREGN 5 EN 3 BETA OL 20 ONE OXIDIZED WITH CRD SUB3 IN ME SUB2 CO-H SUB2 SO SUB4 AT MINUS 10DEGREES GAVE 16 ALPHA, 17 ALPHA ISOPROPYLIDENEDIOXYPROGESTERONE, M. 209-11DEGREES.

UNCLASSIFIED

1/3 017 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--TRANSFORMED STEROIDS. 26. SYNTHESIS OF 16 ALPHA, 17 ALPHA  
DIHYDROXYPROGESTERONE AND SOME OF ITS DERIVATIVES -U-  
AUTHOR-(04)-AKHREM, A.A., DUBROVSKIY, V.A., KAMERNITSKIY, A.V.,  
PAVLOVAGRISHINA, N.S.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 895-900  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROGESTERONE, CHEMICAL SYNTHESIS, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/0446

STEP NO--UR/0062/70/000/004/0895/0900

CIRC ACCESSION NO--AP0131084  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--3000170

CIRC ACCESSION NO--AP0123672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTRARY TO PUBLISHED CLAIMS (SCIANKY, R., 1961; SUVOROV, N. N., ET AL., 1960) IT WAS SHOWN FROM MASS AND NMR SPECTRAL DATA THAT REACTION OF 16 ALPHA, 17 ALPHA, EPOXY-PREGN, 5, EN, 3 BETA, OL, 20, ONE ACETATE 20, ETHYLENE KETAL WITH MENGI PROCEEDS SO THAT ALONG WITH NORMAL OXIDE RING OPENING TO FORM THE 16 BETA, METHYL, 17 ALPHA, HYDROXY DERIV., THERE IS ALSO FORMED THE 16, DEMETHYL ANALOG (I), PROBABLY VIA REDN. OF THE OXIDE RING BY RMGX. THIS YIELDS A DIFFICULTLY SEPARABLE MIXT. OF THE TWO PRODUCTS WHICH HAVE THE SAME CHROMATOGRAPHIC MOBILITY. IF THE REACTION IS RUN IN THF IT IS FURTHER COMPLICATED BY FORMATION OF 20, METHYL-PREGN, 5, EN, 3 BETA, 17 ALPHA, 20, TRIOL, WHILE IN ET SUB2 O, C SUB6 H SUB6 THE MAIN REACTION FORMS PRODUCTS OF WAGNER, MEERWEIN REARRANGEMENT, YIELDING 53PERCENT II. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--REDUCTION OF THE EPOXIDE RING DURING THE REACTION OF  
METHYLMAGNESIUM IODIDE WITH THE 20,ETHYLENE KETAL OF 16 ALPHA, 17  
AUTHOR--(04)--PROKOFYEV, YE.P., AKHREM, A.A., ILYUKINA, I.V., ZAYKIN, V.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. ADAD. NAUK SSSR, SER. *A* KHIM. 1970, (3), 715-6

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STEROL, EPOXIDE, ACETATE, HYDROXYL RADICAL, CHEMICAL  
REDUCTION, NMR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1999/1884

STEP NO--UR/0062/70/000/003/0715/0726

CIRC ACCESSION NO--AP0123672  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134665

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING HCL INTO MIXED ISOMERS OF 1,2,DIMETHYLDECAHYDRO,4,QUINOLONES (I) IN ET SUB2 O GAVE A MIXT. OF HCL SALTS, WHICH WERE SEPD. INTO A SALT (II) M. 168-9DEGREES AND A SALT (III) M. 146-7DEGREES; TREATMENT OF THE FILTRATE FROM THIS WITH PICRIC ACID GAVE A PICRATE (IV) M. 193-4DEGREES AND A PICRATE (V) M. 173-4DEGREES. II TREATED WITH K SUB2 CO SUB3 GAVE AN ISOMER (VI) OF I, B SUB1 TIMES 5 85-7DEGREES, N PRIME20 SUBD 1.4956; ALSO FORMED FROM V. III GAVE AN ISOMER (VII) OF B SUB1 TIMES 5 87-8DEGREES, M. 52-3DEGREES, WHICH WAS FORMED IN PART BY IV, ALONG WITH VI. C SUB2 H SUB2 PASSED INTO NA IN LIQ. NH SUB3 3 HR, THEN TREATED WITH VI GAVE 58PERCENT 1,2,DIMETHYL,4,ETHYNYLDECAHYDRO,4,QUINOLOL, M. 134-5DEGREES, WHILE THE MOTHER LIQUOR GAVE 29PERCENT ISOMER, M. 115-16DEGREES. SIMILAR REACTION WITH VII GAVE 56PERCENT 4,QUINOLOL ISOMER, M. 133-3.5DEGREES IN 56PERCENT YIELD. THE PIPERIDONE WHICH FORMS VI PROBABLY HAS CIS RING JUNCTURE. VII EVIDENTLY IS CAPABLE OF REACTING WITH NAC TRIPLE BOND CH VERY STEREO SELECTIVELY AND TO FORM ONLY THE ONE ISOMER OF THE QUINOLOL WITH AN EQUATORIAL ETHYNYL GROUP. FACILITY: INST. FIZ. ORG. KHIM., MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--STEREOCHEMISTRY OF THE ETHYNYLATION OF  
1,2,DIMETHYL,DECAHYDRO,4,QUINOLONES ISOMERIC AT C 2 -U-  
AUTHOR-(03)-AKHREM, A.A., UKHOVA, L.I., USKOVA, N.F.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSR, SER. KHIM. 1970, (4), 900-3  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--STEREOCHEMISTRY, QUINOLINE, KETONE, ISOMER, PICRIC ACID  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/0941 STEP NO--UR/0062/70/000/004/0900/0903  
CIRC ACCESSION NO--AP0134665  
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70  
CIRC ACCESSION NO--AA0113021  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INDAN IS PREPD. BY CATALYTIC  
DEHYDROISOMERIZATION OF SPIRO(4,4)NONA,2,4,DIENE AT 250-400DEGREES.

UNCLASSIFIED

89

1/2 009  
TITLE--INDAN -U-

UNCLASSIFIED

PROCESSING DATE--02OCT70

AUTHOR--(03)-MIRONOV, V.A., IVANOV, A.P., AKHREM, A.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,591

REFERENCE--OTKRYTIYA, IZOBRET., PROM: OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, ISOMERIZATION, AROMATIC  
HYDROCARBON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1993/0021

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0113021

UNCLASSIFIED

USSR

UDC 615.217.4.015

KUZ'MITSKIY, B. B., AKHREM, A. A., UKHOVA, L. I., MAROCHKIN, A. P., and  
BLUDOVA, G. V., Minsk Medical Institute and Institute of Physical and Organic  
Chemistry, Academy of Sciences, Belorussian SSR

"Pharmacological Properties of Stereoisomeric 4-Vinylethynyl- and 4-Butyl-  
Substituted Decahydro-4-quinolones"

Moscow, Farmakologiya i Toksikologiya, No 6, 1972, pp 665-668

Abstract: The spectrum of neurotropic activity of several new decahydroquinoline derivatives (2-methyl- and 1,2-dimethyl-4-vinylethynyldecahydroquinolones-4 and 2-methyl- and 1,2--dimethyl-4-butyldecahydroquinolones-4) was studied in experiments on mice, rats, and cats. The compounds were found to have ganglion-blocking and antinicotinic activity. They inhibited the transmission of excitation mainly in the parasympathetic ganglia of the heart, had little effect on the superior cervical ganglion, and did not significantly alter the sensitivity of the M-cholinergic receptors or noncholinergic neurons. The ganglion-blocking and antinicotinic activity of the compounds varies with their chemical and spatial structure. Large doses intensify the central action of amphetamine sulfate, prolonging stereotypic movements in the rat. The pure isomer, a tertiary amino alcohol, is the most active. There is no correlation between M-choline-blocking activity and toxicity when the configuration of the compounds is changed.

1/1

2/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70  
CIRC ACCESSION NO--AP0123575  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM LIO. PHASE EXTRACT OF  
1,ACETYLCYCLOPENTENE BY D IN ME SUB2 CO IN THE PRESENCE OF CN ROBINATE  
AND CO STEARATE THERE WAS FORMED A COMPLEX MIXT. WHICH YIELDED A LOW  
YIELD OF 3,ACETYL,2,CYCLOPENTEN,1,ONE, M. 57.5-8.500 GRS.  
FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--LIQUID PHASE OXIDATION OF 1,ACETYL,1,CYCLOPENTENE -U-  
AUTHOR-(03)-AKHREM, A.A., MOISEYENKOV, A.M., POSELENOV, A.I.  
COUNTRY OF INFO--USSR *A*  
SOURCE--IZV. AKAO. NAUK SSSR, SER. KHIM. 1970, (3), 699-700  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--OXIDATION, ALKENE, CYCLIC GROUP, KETONE, CHEMICAL SYNTHESIS  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REFL/FRAME--1977/1778 STEP NO--00627107-007-01/0577-100  
CIRC ACCESSION NO--AP0123575  
UNCLASSIFIED

USSR

UDC 541.69 + 547.594.5

KUZ'NETSIIY, B. P., OSTEROM, A. A., UKHOVA, L. I., and USKOVA, N. P.,  
Minsk State Medical Institute, Institute of Physico-Organic Chemistry,  
Academy of Sciences BSSR, and Institute of Organic Chemistry Imeni  
N. D. Zelinskiy, Academy of Sciences USSR

"Conformational Effects of 1,2,4-Substituted Decahydroquinolol-4 Deri-  
vatives on Their Biological Activity"

Moscow, Izvestiya Akademii Nauk, Seriya Khimicheskaya, No 7, Jul 70,  
pp 1678-1679

Abstract: Cholinolytic activity depends principally on the hydrocarbon  
substituent in position 4. The most active are compounds with an allyl-  
nyl substituent, followed by a vinyl, and least active are those with  
an ethyl or acetyl substituent. As far as the effect of special orien-  
tation is concerned, compounds with the methyl and alkyl groups in  
2-axial, 4-equatorial conformation are most active, those 2e4a-oriented  
are less active, and 2e4e substituted ones are least active. Toxicity  
of this type of compounds relates in the opposite direction: the least  
toxic are those of the 2a4e series, followed by 2e4a and 2e4e compounds  
in increasing order of toxicity.

1/1

USSR

UDC 547.779.+547.78

AKHREM, A. A., MOISEYENKOV, A. M., ANDABURSKAYA, M. B., and STRAKOV, A. Ya.,  
Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences  
USSR, and Riga Polytechnic Institute, Riga

"1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole"

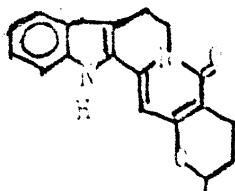
Riga, Izvestiya Akademii Nauk Latvyskoy SSR, Seriya Khimicheskaya, No 6,  
1970, pp 740-741

Abstract: 1-Amino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahydroindazole (I) with  
m. pt. 130-1° was prepared by boiling 3,6,6-trimethyl-4-oxo-4,5,6,7-tetra-  
hydrobenz(d-1,2)isoxazole with hydrazine hydrate and pyridine. By boiling I  
in acetic anhydride, 1-N-acetylamino-3,6,6-trimethyl-4-oxo-4,5,6,7-tetrahy-  
droindazole (m. pt. 188-9°) was obtained. On boiling of equimolar amounts  
of I and benzaldehyde in EtOH, formation of 1-N-benzalamino-3,6,6-trimethyl-  
4-oxo-4,5,6,7-tetrahydroindazole (m. pt. 101-3°) took place. Derivatives of  
4,5,6,7-tetrahydroindazole were found to exhibit a wide range of physiological  
activity; 1-amino derivatives of this compound may be of interest from this  
standpoint.

1/1

USSR

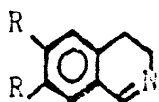
AKHIEV, A. A., et al. *Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya*, No 10, Oct 72, p 2376



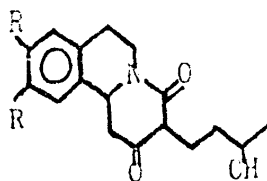
(XII), m.p. 301-302°

USSR

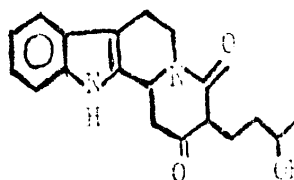
AKHREM, A. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, p 2376



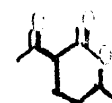
A(I) R=H  
(II) R=OMe



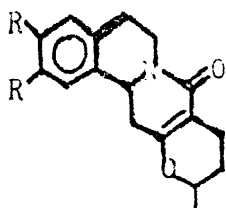
(V) R=H, m.p. 178-180°  
(VI) R=OMe, m.p. 183-185°



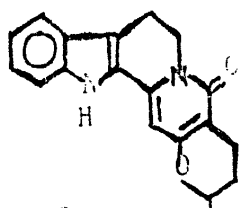
(VII) MeOH  
m.p. 196-198°



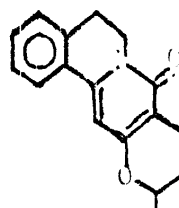
(IV)



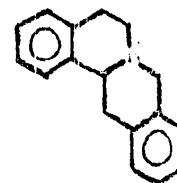
(VIII) R=H, m.p. 118-119°  
(IX) R=OMe, m.p. 143-144.5°



(X), m.p.  
263-265°



(XI), m.p.  
154-156°



(XIII)

2/3

USSR

UDC 542.91:547.833.547.752:547.94

AKHREM, A. A., MOISEYENKOV, A. M., KRIVORUCHKO, V. A., CHERNOV, YU. G., and  
MALISHEVSKII, V. S., Institute of Organic Chemistry Imeni N. D. Zelinskii  
Acad. Sc. UESR, and Institute of Physical Organic Chemistry Acad. Sc. USSR

"Synthesis of Benzo [a]-and Indolo[a]quinolizines: a new Approach to the Total  
Synthesis of Some Isoquinoline and Indole Alkaloids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 10, Oct 72, p 2376

Abstract: Isomethines (I,II) react with acetyl- $\delta$ -lactone (IV) to yield a  
series of lactams (V-VII) which can be converted to corresponding pyranolactams  
(VIII-X), and dehydrated to pyridones (XI-XII). Compound (V) was converted in  
5 steps to tetrahydropprotoberberine (XIII).

AA0047097

AUTHORS: Vinshteyn, I. I.; Akhpatelov, E. A.

Gosudarstvennyy Nauchno - Issledovatel'skiy i Proyektnyy Institut  
"Giprotyumenneftegaz"

19790586

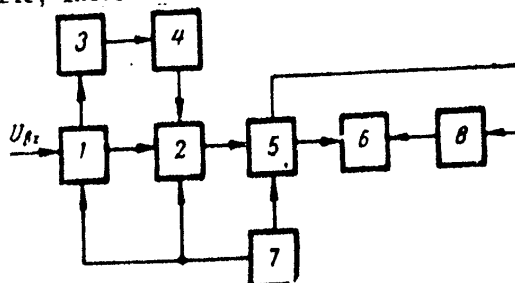
$\frac{1}{2}$

1A0047097- AKHPATELOV E.A. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 4/70

241538 FREQUENCY METER consisting of limiting amplifier (1), trigger (2), smoothing filter (3), switching transistor (4), capacitor (6), charge control block (5), DC source (7) and meter (8). Output potential from trigger (2) controls block (5) which provides periodic charge-discharge sequence in capacitor (6).

18.12.67 as 1203851/18-10.1.1.VINSHTEIN, E.A. AKHPATELOV  
"GIPROTIIUMENNEFTEGAS" (1.9.69) Bul 14/18.4.69.  
Class 21e, Int.Cl.G 01r.



1/2

19790585

4

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114528

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER TREATS OF THE RESULTS OF STUDYING THE SURVIVAL AND VARIABILITY OF STREPTOCOCCUS A OF CULTURES UNDER THE EFFECT OF THERAPEUTIC CONCENTRATIONS OF BICILLIN IN AN EXPERIMENTAL FOCUS OF CHRONIC INFECTION CREATED BY RASKA'S METHOD (1962). IN BICILLIN TREATED ANIMALS VIABLE STREPTOCOCCUS A CELLS WERE REVEALED FOR A PERIOD OF 3 WEEKS, AND IN CONTROL ANIMALS, DURING THE WHOLE OBSERVATION PERIOD (FOR 8 WEEKS). STREPTOCOCCI ALTERED IN MORPHOLOGICAL AND IN CULTURAL RESPECT IN THE ORGANISM OF CONTROL AND, PARTICULARLY, OF EXPERIMENTAL ANIMALS. AS A RULE, REDUCTION AND LOSS OF HEMOLYTIC ACTIVITY OF STREPTOCOCCI WAS ACCOMPANIED BY CHANGES IN THE STRUCTURE OF AN ANTIGENIC APPARATUS; DUE TO THIS MICROBIAL CULTURES FAILED TO REACT IN PRECIPITATION REACTION AT FIRST WITH THE GROUP, AND LATER WITH THE TYPE HOMOLOGOUS ANTISTREPTOCOCCUS SERUM. STREPTOCOCCUS ANTIGEN WAS REVEALED IN THE BLOOD SERUM OF MANY EXPERIMENTAL ANIMALS AT LATE OBSERVATION PERIODS, WHEN BACTERIOLOGICAL EXAMINATION FOR STREPTOCOCCI OF THE CONTENTS OF THE CHAMBERS ALREADY PROVED TO BE NEGATIVE. FACILITY: INSTITUT REVMAIZMA AMN SSSR, MOSCOW.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--SURVIVAL AND BIOLOGICAL PROPERTIES OF STREPTOCOCCI GROUP A UNDER  
CONDITIONS OF EXPERIMENTAL STREPTOCOCCUS INFECTION TREATED WITH  
AUTHOR-(104)-LABINSKAYA, A.S., PONOMAREVA, YE.P., AKHNAZAROVA, V.D.,  
YESHCHINA, A.S.  
COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,  
PP 105-108  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANTIGEN, BLOOD SERUM,  
ANTIBIOTIC/(U)BICILLIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1994/0132

STEP NO--UR/0016/70/000/005/0105/0108

CIRC ACCESSION NO--AP0114528

UNCLASSIFIED

USSR

UDC 678.06:661.183.123.3.01:53

TEVLINA, A. S., AKHNAZAROVA, S. L., KHAR'KOVA, T. P., ZHUKOVA, T. B., and  
KORSHAK, V. V.

"Homogeneous Anionic Membranes and Their Properties"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 15-17

Abstract: A method for production of homogeneous anionic membranes is reported based on nitration of grafted copolymers [styrene + divinylbenzene + copolymer of vinylidene fluoride and hexafluoropropylene] with a mixture of nitric and sulfuric acids followed by reduction and alkylation. The results of the effect of various transformations on the electrochemical and physical-mechanical properties of the membranes are reported. These results were obtained by regression and correlational analyses. It was established that homogeneous membranes show a high chemical and thermal stability and retain their properties even in very aggressive media such as sulfuric, hydrochloric or nitric acids.

2/2 015

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106867

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDRAULIC PROPERTIES WERE DETD. EXPTL. OF THE UNCOMPRESSED LAYERS OF HYDROLYZED HCL LIGNIN (WASTE PRODUCT OF GLUCOSE MANUF.), HYDROLYZED H SUB2 SO SUB4 LIGNIN, AND CHARCOAL MADE FROM LIGNIN. AL MATERIALS WERE EITHER GRANULATED OR POWD.

IN THE LAMINAR FLOW REGION, THE EQUATION  $\Delta P = (W^2 \text{ PRIME}^2 - 2) \text{ LA} - D \text{ SUBE} \text{ R SUBE}$  AND IN THE TURBULENT FLOW RANGE, THE EQUATION  $\Delta P = (W^2 \text{ PRIME}^2 - 2) \text{ LA} - D \text{ SUBE} \text{ (A-R SUBE PLUS B)}$  WERE OBEYED;  $\Delta P$  IS THE PRESSURE DROP (HYDRAULIC RESISTANCE) THROUGH A LAYER OF THICKNESS  $L$ ,  $W$  IS THE AV. FLOW VELOCITY,  $\rho$  IS THE D. OF THE FLOWING GAS,  $T \text{ SUBE}$  IS THE REYNOLDS NO. RELATED TO  $A$  IN THE LAMINAR FLOW RANGE BY  $A \text{ EQUALS } \lambda \text{ D AR SUBE}$  AND IN THE TURBULENT FLOW RANGE BY  $\lambda \text{ EQUALS } A - R \text{ SUBE PLUS B}$ , AND  $D \text{ SUBE}$  IS THE EQUIV. DIAM. OF THE FREE SPACES (CANALS) OF THE SOLID LAYER. ALL THE PARAMETERS OF THESE EQUATIONS WERE DETD. IN THE 5-800  $R \text{ SUBE}$  RANGE, AND THE CRIT.  $R \text{ SUBE}$  VALUES WERE DETD.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--HYDRAULIC RESISTANCE OF A LAYER OF HYDROLYZED LIGNIN -U-  
AUTHOR--KOROTOV, S.YA., OPARINA, L.V., SUKHANOSKIY, S.I., ARMINA, YE.I.  
COUNTRY OF INFO--USSR *A*  
SOURCE--GIDROLIZ. LESOKHIM. PROZ. 1970, 23(1) 11-12  
DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, BIOLOGICAL AND MEDICAL  
SCIENCES  
TOPIC TAGS--LIGNIN, GLUCOSE, INDUSTRIAL WASTE TREATMENT, CARBON PRODUCT,  
HYDRAULIC RESISTANCE, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1989/0211

STEP NO--UR/0323/70/023/011/011/011

CIRC ACCESSION NO--AP0106867

UNCLASSIFIED

UDC 51

USSR

MEYEROV, M. V., AKHMETZIANOV, A. V.

"Algorithm for Solving a Class of Problems of Optimal Control of Technological Processes"

V sb. Metody optimiz. sistem mnogosvyazn. regulir. (Methods of Optimizing Multiconnected Control Systems -- collection of works), Moscow, Nauka Press, 1972, pp 44-51 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V50b)

Translation: A study was made of the class of problems of optimal control of technological processes which are a generalization of the problem of resource distribution. A solution algorithm is proposed which combines the method of dynamic programming (or certain other methods of finding the extremum) with the Danzig-Wolf expansion principle.

1/1

- 40 -

USSR

MIRONOV, G. S., et al, Voyenno-Meditsinskiy Zhurnal, No 9,  
Sep 71, pp 51-54

There is a pronounced decrease in vasotonus, while general intoxication, central nervous system disorders, hemorrhages, and renal failure develop to a moderate degree.

UDC 616.61.151-071

USSR

MIRONOV, G. S., Col Med Serv, Docent; AKHMET'YEV, V. V., Maj  
Med Serv

"Clinical Picture of Hemorrhagic Fever With Renal Syndrome"  
Moscow, Voyenno-Meditsinskiy Zhurnal, No 9, Sep 71, pp 51-54

Abstract: A detailed description is given of the clinical picture of hemorrhagic fever with a renal syndrome, as observed in 200 patients in the central area of the USSR. Data are cited on shifts in body temperature, blood pressure, heart rate, heart sounds, red and white cell count, appearance of the skin and mucous membranes in the mouth, urine output and composition, and development of gastrointestinal disorders, pulmonary noises, meningeal signs, visual disturbance, pain in various parts of the body, sleeplessness, asthenia, and subjective malaise. It was concluded that in the Central USSR, hemorrhagic fever with a renal syndrome has an acute onset, usually without a prodromal period. The most important subjective symptoms are headache, lack of appetite, thirst, and pain in the abdomen and lumbar region.

1/2

2/2 012

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0125759

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE STABILITY OF AQ. DIMETHYLFORMAMIDE SOLNS. OF 2,3,QUINOXALINEDITHIOL (I) WAS STUDIED. THE DECOMP. RATE OF THE REAGENT SOLNS. GREATLY DECREASES AFTER ACIDIFICATION. THE OPTIMUM RATIO OF THE SOLVENT COMP. IS 70PERCENT DIMETHYLFORMAMIDE WITH 30PERCENT H SUB2 O. THE IONIZATION CONSTS. OF THE REAGENT IN AQ. DIMETHYLFORMAMIDE SOLNS. WERE DETD. BY A POTENTIOMETRIC METHOD. PK VALUES DEPEND LINEARLY ON THE WATER CONTENT. THE IONIZATION CONSTS. OBTAINED BY EXTRAPOLATION OF THE STRAIGHT LINES TO VALUES CORRESPONDING TO 100PERCENT H SUB2 O CONTENT ARE IN GOOD AGREEMENT WITH DATA OBTAINED BY THE SOLY. METHOD. I IS A WEAK ACID WITH DISSOCN. CONSTS. K SUB1 EQUALS 1.16 TIMES 10 PRIME NEGATIVE7 (PK SUB1 6.95) AND K SUB2 EQUALS 1.23 TIMES 10 PRIME NEGATIVE10 (PK SUB2 9.91). I IS READILY OXIDIZED ON A GRAPHITE MICROANODE AND GIVES SEVERAL WELL DEFINED STAGES OF THE DIFFUSION CURRENT, THEIR HEIGHT BEING PROPORTIONAL TO THE CONC. OF I. THIS CAN BE USED FOR THE AMPEROMETRIC DETN. OF SEVERAL ELEMENTS. FACILITY: DNEPROPETROVSK STATE UNIV., DNEPROPETROVSK, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--PHYSICOCHEMICAL PROPERTIES OF 2,3,QUINOXALINEDITHIOL -U-  
AUTHOR-(03)--CHERNOMORCHENKO, L.I., AKHMETSHIN, A.G., CHUIKO, V.T.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 231-6  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, THIOL, AQUEOUS SOLUTION, CHEMICAL  
STABILITY, IONIZATION CONSTANT, AMPEROMETRIC TITRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/2179

STEP NO--UR/0075/70/025/002/0231/0236

CIRC ACCESSION NO--AP0125759  
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0135227

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 2-ISOPROPYLNAPHTHALENE IS PREPD.  
BY ALKYLATING NAPHTHALENE WITH A FRACTION OF POLYALKYLBENZENES (1:9-10  
RATIO) IN THE PRESENCE OF ALCL SUB3.

UNCLASSIFIED

1/2 007  
TITLE--2, ISOPROPYLNAPHTHALENE -U-

UNCLASSIFIED *A*

PROCESSING DATE--27NOV70 *3*

AUTHOR--(05)-TOKARSKAYA, I.I., BIKCHURINA, L.KH., SHMELEV, A.S., AKHMETOVA,  
S.Z., ABRAMOVICH, Z.I.  
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,583  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NAPHTHALENE, ALKYLATION, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3006/1586

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0135227

UNCLASSIFIED

2/2 . 006

UNCLASSIFIED

PROCESSING DATE--11-8-70

CIRC ACCESSION NO--AP0108994

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PETROLEUM RESIDUE OBTAINED BY  
DISTN. IN VACUO YIELDED ASPHALT OF POOR QUALITY. BY OXIDIZING THE  
RESIDUE UNTIL A SOFTENING POINT (RING AND BALL) 30-100 DEGREES WAS  
REACHED AND DILG. WITH AN EXT. FROM SELECTIVE REFINING OR WITH A VACUUM  
FRACTION, THE ASPHALT OBTAINED HAD THE REQUIRED PENETRATION. THE  
CHARACTERISTICS OF THE RAW MATERIALS AND PRODUCTS ARE TABULATED.

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UNCLASSIFIED

1/2 .006 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--IMPROVEMENT IN THE TECHNOLOGY FOR PRODUCING CONSTRUCTION ASPHALT  
BN, IV -U-  
AUTHOR--AKHMETOVA, R.S., FRYGINA, I.G., FRYAZINOV, V.V. A  
COUNTRY OF INFO--USSR  
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1), 9-10  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--CONSTRUCTION MATERIAL, INDUSTRIAL PRODUCTION, ASPHALT/CEMENT  
ASPHALT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1990/0793 STEP NO--UR/0318/70/000/001/0009/0-10  
CIRC ACCESSION NO--AP0108994  
ZZZZZZZZZZ UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--200170

CIRC ACCESSION NO--AP0123576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. HEATING 5 G OCTAFLUORONAPHTHALENE (I) WITH 14.5 G SO SUB3 STABILIZED BY 1.45 G ME SUB2 SO SUB4 IN A SEALED TUBE 1 DAY AT 50 DEGREES GAVE AFTER QUENCHING IN ICE AND EXTN. WITH CH SUB2 CL SUB2 1.4 G PURE II, B SUB0.02 73-4 DEGREES. I AND DRY ME IN 40 HR AT 200 DEGREES GAVE AFTER AN AQ. TREATMENT 73 PERCENT 1, OXO, PERFLUORO, 1,4, DIHYDRO NAPHTHALENE, 15 PERCENT HEPHTAFLUORO, 1, NAPHTH (III) AND 12 PERCENT UNIDENTIFIED PRODUCTS. SIMILARLY, I AND 48 PERCENT HBK IN ET SUB2 D GAVE IN 4 DAYS A SMALL AMT. HEXAFLUORO, 1,4, NAPHTHOQUINONE, ALONG WITH 82 PERCENT III. I AND CONCD. HCL GAVE IN 4 DAYS 80 PERCENT 1, OXO, 4, CHLOROHEPTAFLUORO, 1,4, DIHYDRO NAPHTHALENE. THE RESULTS SUGGEST THAT THE REACTION OF SO SUB3 WITH C SUB10 F SUB8 PROCEEDS THROUGH A COMPLEX OF THE POLYFLUORO SIGMA BONDED TYPE. FACILITY: NOVOSIBIRSK, INST. ORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--REACTION OF OCTAFLUORONAPHTHALENE WITH SULFUR TRIOXIDE --U-  
AUTHOR--(03)-AKHMETOVA, N.E., SHTEYNGARTS, V.D., YAKOVLEV, G.G.  
COUNTRY OF INFO--USSR *A*  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 705-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, NAPHTHALENE, SULFUR OXIDE,  
COMPLEX COMPOUND, NAPHTHOL, QUINONE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--1939/1779 STEP NO--UR/0062/10/100/103/0105/0101  
CIRC ACCESSION NO--AP0123576  
UNCLASSIFIED

UNCLASSIFIED

Acc. Nr. **AA0108200** — Abstracting Service:  
CHEMICAL ABST.

Ref. Code  
**UR 0482**

6-70

134781a Purification of barium chloride solutions. Akhmedov, T. G.; Lisina, N. V. U.S.S.R. 262,104 (Cl. C 01f), 26 Jan 1970, Appl. 09 Oct 1967; From *Otkrytiya, Izobret., Prom. Obrasty, Tovarnye Znaki* 1970, 47(6), 20. The title solns. are purified by treating them with  $ZnCl_2$ , filtering them, and treating them with HCl during heating, with subsequent filtering.  
MQCL J

EF

REEL/FRAME

19891866

18

UDC 547.242

USSR

MIFTAKHOVA, R. G., AKHMETOVA, F. V., and SULTANOVA, R. KH., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Synthesis of Ketoxime Alkyl- and Arylarsinous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1966-1969

Abstract: Reaction of various ketoximes with alkyl- and arylarsineoximes or with alkyl- and arylhaloarsines in presence of triethylamine yields ketoxime esters of trivalent arsenic acids. The products are colorless liquids with characteristic odors; they are easily hydrolyzed by atmospheric moisture.

USSR

UDC [621.357.7:604.97]:69.872

AKHMETOV, T. Z., TOYRAIEV, B. K., and ZERBEVA, A. I.

"Cementation of Indium and Antimony by an Amalgam of Zinc"

Izv. vyssh. ucheb. zavedniy. Khimiya i khim. tekhnol. (Bulletin of the Institute of Higher Learning. Chemistry and Chemical Technology), 15, No 10, 1972, pp 1570-1573 (from Referativnyi Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L330 by I. G. Abidov)

Translation: A radiochemical method was used to study the behavior of In (III) and Sb (III) during amalgam cementation (AC) at 24°C in the following solutions:  $HNO_3$ ,  $H_2SO_4$ , 3M HCl, and 3M HCl-0.1M  $KH_2PO_4$ . Sb was cemented in the AC in all the solutions examined. In this case, part of the Zn was bound up with the Sb in the intermetallic structure. The In was cemented in the AC only from the HCl and alkali solutions. If there were no free Zn in the amalgam and if Sb were present in the solution, then In earlier in the AC cemented the Sb. In this case, In may again almost completely come into solution but the Zn bound up with the Sb remains in the amalgam.

USSR

UDC: 681.3.06:51

AKHMETOV, K. A., BEKMURATOV, T. F., KAMILOV, M. M., SHAMSIYEV, T. G.

"On Optimizing a Technological Process on an Analog-Digital Computer System Using Search Methods"

V sb. Vopr. kibernet. i vychisl. mat. (Problems of Cybernetics and Computer Mathematics--collection of works), vyp. 40, Tashkent, 1970, pp. 66-69 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V704)

Translation: The authors investigate an algorithm for optimizing the process of hydrolysis with the aid of an analog-digital computer system. The problem of optimization consists in maximizing the quantity  $Q$  of reducing agents throughout the final product (hydrolysate). The algorithm is based on using the method of alternately changing the parameters on which  $Q$  depends:  $x_2$  -- vapor flow-rate;  $x_3$  -- water flow-rate;  $x_4$  -- acid flow-rate. Tables are presented for the optimum values in the corresponding units of measurement. It is proposed that the method of statistical (random) search be used to optimize the process on an analog-digital computer system with regard to the real interference acting on the object. V. Mikheyev.

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USSR

UDC 535

ARTAMONOV, V. G., AKHMETOV, A. T., ZAMKOV, V. A.

"Dependence of Mandelstam-Brillouin Components in a Liquid on Temperature"

V sb. Sovrem. probl. fiz. khimii (Modern Problems of Chemical Physics -- Collection of Works), Vol. 5, Moscow, Moscow University, 1970, pp 275-279 (from EZh-Fizika, No 7, Jul 71, Abstract No 7D924)

Translation: The speed of hypersound in benzene and acetone was investigated by the light scattering method along the saturation line up to a temperature 20-30°C below critical. The linear dependence of the speed on temperature that was obtained leads to a quadratic dependence of the adiabatic compressibility on  $T_c - T$ , which contradicts the curve found from the equation of state. An attempt is made to interpret this in the spirit of the theory of "dimensionality." V. Z.

2/2 017 UNCLASSIFIED PROCESSING DATE--2006170  
CIRC ACCESSION NO--AP0049370  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COULOMETRIC TITRATION OF SMALL  
AMOUNTS OF MANGANESE(II), CERIUM(III), AND VANADIUM(IV) WITH  
ELECTROGENERATED DICHROMATE HAS BEEN CARRIED OUT IN 1M H<sub>2</sub>SO<sub>4</sub> AT 25°C.  
THE END POINT OF TITRATION HAS BEEN ESTABLISHED BY VARIOUS METHODS. THE  
POSSIBILITY OF DETERMINING MANGANESE IN BRASS AND BRONZE IS DISCUSSED.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--COULOMETRIC DETERMINATION OF MANGANESE(III), CERIUM(III), AND  
VANADIUM(IV) -U-  
AUTHOR-(03)-KOSTROMIN, A . . . AKHMETOV, A.A., ORLOVA, L.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ANAL. KHIM. 25, 195-6 JAN 1970  
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POTENTIOMETRIC TITRATION, MANGANESE, CERIUM, VANADIUM,  
ANALYTIC CHEMISTRY, BRONZE, BRASS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1980/1192

STEP NO--UR/0015/69/025/500/0115/0196

CIRC ACCESSION NO--AP0049370  
UNCLASSIFIED

UDC: 51.621.391

USSR

AKHMETKAZIYEV, A.

"On Complete Parallel Decomposition of an Automaton"

Tr. In-ta mat. i mekh. AN KazSSSR (Works of the Institute of Mathematics and Mechanics, Academy of Sciences of the Kazakh SSR), 1971, 2, pp 253-258 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V583)

Translation: An algorithm is proposed for decomposing an automaton into s parallel operating automata by using s two-block subdivisions with a substitution property. Author's abstract.

USSR

UDC 62-501.551.3

AKHMETGALEYEV, I. I.

"The Stability of Symmetrical Vehicles in an Oblique Wind"

Kazan', Avistsionnaya Tekhnika, No 4, 1972, pp 5-8

Abstract: The use of Lyapunov functions to investigate equilibrium nonlinear differential equations describing the motion of the control system of a symmetrical vehicle with identical supporting and controlling surfaces is considered. The possibility of constructing sufficient conditions of stability using frequency criteria and Lyapunov functions as the sum of the quadratic and quaternary order terms, and also for the integrals of nonlinearity, is demonstrated.

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USSR

AKHMETBEKOVA, R. T. and YAKUNIN, M. P., Izvestiya Akademii Nauk  
Kazakhskoy SSR, No 1, Jan/Feb 1971, pp 54-56

all its developmental stages, was most resistant to aqueous chlorophos solutions. *D. gallinae* and *C. lectularius* were generally less resistant, than *A. persicus*. The residual effectiveness of chlorophos was 1-3 days, that of sevin, methylnitrophos, and dithiophos 4-7 days. The compounds appeared to act primarily on the nervous system, though they also affected the chitin integument. On the basis of the results, it was concluded that sevin, methylnitrophos, and dithiophos are effective pesticides and can be successfully used against the above-mentioned ectoparasites.

Entomology

UDC 576.895.7

USSR

AKHMETBEKOVA, R. T. and YAKUNIN, M. P., Institute of Zoology,  
Academy of Sciences Kazakh SSR

"Study of Insecto-Acaricidal Effects of Some Compounds on Nest-  
Inhabiting Ectoparasites"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, No 1, Jan/  
Feb 1971, pp 54-56

Abstract: In this investigation, the insecto-acaricidal effects of solutions and emulsions of chlorophos, sevin, and methylnitrophos (0.5, 1.0, 2.0, and 3%), dithiophos (0.01, 0.02, and 0.03%), and dust (5%) on larvae, nymphs, and imagoes of *Argas persicus*, *Dermanyssus gallinae*, and *Cimex lectularius* were studied. Depending on the concentration, aqueous chlorophos killed adult *Argas persicus* in 1-7 days; larvae and nymphs were more susceptible. Sevin emulsions killed adult ticks in 1-5 days, and hungry larvae almost immediately. Methylnitrophos killed the ticks in 1-2 days. Dithiophos emulsions, even very dilute ones, killed all ticks within a few hours. Sevin dust killed all experimental insects in 1-2 days. *A. persicus*, in  
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USSR

UDC 51.621.391

AKHMETAZIYEV, A. V.

"Divisions with Permutation Property"

Teor. Kibernetika. Vyp. 1 [The Theory of Cybernetics. No. 1 -- Collection of Works], Kiev, 1970, pp 44-62 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V458 by S. Aleshin).

Translation: Divisions are studied with the permutation property in the set of states of a finite automaton (RZhMat, 1962, 12V248). It is noted that the Hartmanis algorithm for determination of such divisions requires a large number of samples. When certain necessary conditions for existence of permutation divisions are used, an algorithm is produced in which only those divisions defined as "likely" are checked. The author notes that this algorithm significantly decreases the number of samples required. There are misprints in the text.

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2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120589

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTRA OF INELASTIC E SCATTERING WERE MEASURED AT THE INITIAL ENERGY OF 1150 MEV IN THE ANGULAR RANGE 25-60DEGREES. THE MONOCHROMATIZED BEAM OF E FROM A LINEAR ACCELERATOR FELL ON THE HARD C LAYER 0.02 RADIATION LENGTH THICK. THE SECONDARY PARTICLES WERE ANALYZED BY MEANS OF A MAGNETIC SPECTROMETER; IDENTIFICATION AND COUNTING OF PARTICLES WAS PERFORMED BY THE SHOWER COUNTER CONSISTING OF PB GLASS AND PHOTOMULTIPLIER. EACH SPECTRUM SHOWS 2 PEAKS, ONE OF WHICH IS TREATED AS QUASI ELASTIC SCATTERING AND THE OTHER AS THE PION PRODUCTION ON THE PRIME12 C N. THE PION ELECTROPRODUCTION CROSS SECTION CAN BE DESCRIBED AS A SUM OF CROSS SECTIONS FOR THE ELECTROPRODUCTION OF FREE N. THE DEPENDENCE OF THE CROSS SECTION ON THE 3 MOMENTUM TRANSFER IN THE ELECTROPRODUCTION PEAK ALLOWS THE MAIN REGULARITIES TO BE ESTABLISHED OF THE DELTA SUB1238 ISOBAR ELECTROPRODUCTION OF A FREE RHO. THE MEASUREMENTS LEADS TO THE CONCLUSION THAT THE QUASI ELASTIC SCATTERING AND ELECTROPRODUCTION OF PIONS ON N PLAYS THE DOMINANT ROLE. THE QUANT. AGREEMENT OF THEORY AND EXPTL. RESULTS IS SATISFACTORY ONLY AT SMALL TRANSFERED MOMENTUMS (25 AND 35DEGREES). AT LARGE MOMENTUMS THE PARAMETERS CHARACTERIZING THE DIFFERENCE BETWEEN THE FREE AND NUCLEUS N HAS TO BE TAKEN INTO ACCOUNT.

FACILITY: FIZ.-TEKH. INST., KHARKOV, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--PION ELECTROPRODUCTION ON CARBON -U-  
AUTHOR-(05)-TITOV, YU.I., STEPULA, YE.V., AFANSAYEV, N.G., AKHMEROV, R.V.,  
BYVALIN, S.A.  
COUNTRY OF INFO--USSR  
SOURCE--UKR. FIZ. ZH. (RUSS. ED.) 1970, 15(2), 257-65  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ELECTRON SCATTERING, INELASTIC SCATTERING, HIGH ENERGY  
PARTICLE, CARBON, SECONDARY EMISSION, PION, SPECTRUM ANALYSIS,  
DIFFERENTIAL CROSS SECTION, PARTICLE PRODUCTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1946 STEP NO--UK/0185/70/015/002/025/0265  
CIRC ACCESSION NO--AP0120589  
UNCLASSIFIED

USSR

UDC 801:51

AKHMEROV, F. R.

"Some Semiotic Problems of Informatics"

Nauch.-tekhn. Inform. sb. Vses. in-t Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of All-Union Institute of Scientific and Technical Information], Series 2, No 4, 1971, pp 9-14, 39, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V860 by the author).

Translation: A system and category of concepts, the basic operations on concepts, certain relationships defined in the set of concepts and the properties of these relationships are studied. Practical recommendations are given for the determination of homonyms; the quantity of semantic information is defined. The basic requirements placed on scientific and technical thesauri are studied.

AKHMEDZHANOV, M. Yu.

Co: 1285 5378  
02 575 9

UDC: 61.001.11

## METHODOLOGICAL ASPECTS OF THE PROBLEM OF DEFINING THE MAIN CONCEPTS IN MEDICINE

(Article by M. Yu. Akhmedzhanov, A. N. Vlasov (Yalta); Moscow, Vostok Akademiya Meditsinskikh Nauk SSSR, Moscow, No. 1, April 1971, pp. 45-50)

The entire set of medico-biological concepts, both traditional and contemporary, today requires attentive analysis to define and reveal the new content of these concepts now enriched by updated concrete material. Such analysis has important methodological functions in the development of medico-biological knowledge. The solution of this problem necessarily implies the development of some new approaches to the study of medico-biological concepts expressed by integral, systemic scrutiny of the conceptual apparatus of these sciences. In the last few years a number of works has been published dealing with analysis of medical concepts such as "norm," "health," "sickness," "etiology," "pathogenesis," "prognosis," etc.

In most of these works, analysis was usually made in relative isolation, without establishing general bases and deep correlations between conceptual concepts. The elementaristic principle of analysis, i.e., consideration of concepts apart from one another, does not permit demonstration of their interrelation and essence in full measure. The search for the bases of logical unity and essence in full measure. The search for the methodological apparatus of analysis is a means of reaching a higher level of scientific knowledge. It is possible to realize this through a systemic approach and to enter the conceptual apparatus of the present science, the development and to enter the conceptual apparatus of medico-biological sciences.

It has been attempted to disclose correlations between conceptual concepts such as "health," "etiology," "pathogenesis," "prognosis," and to treat them as elements of a single system (framework) of concepts. This attempt was only partly successful. The main methodological difficulties arising from the results of our research in the field of medical methodology and a consideration of the theoretical basis. In this direction principles and criteria for development that enable us to reveal correlations and to make a systemic analysis of the basic concepts, to formulate a definition thereof.

Thus, for a relatively narrow and specific question related to medical methodology study is of the concepts in question.

USSR

KALPAYEV, O. Sh. and AKHMEPZHANOV, K. A., Meditsinskiy Zhurnal Uzbekistana, Jul 73, pp 45-47

the cholinesterase activity of the blood occurs together with a pronounced change in the metabolism of the leukocytes characterized by a decrease in the cytochrome indicators.

USSR

KALPAYEV, O. Sh. and AKHMEDZHANOV, K. A., Tashkent Institute of the Advanced Training of Physicians

"Cytochrome and Other Indicators of Distal Blood During Acute Poisoning by Fozalon in an Experiment"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, Jul 73, pp 45-47

Abstract: The toxic effect of these chemical compounds is related to the disturbance of the cell metabolism through upsetting the exchange mechanism. The experiments were carried out on 24 rabbits and 24 rats. These were divided into three groups: a control group; a group exposed to fozalon vapors ( $5.57 \text{ mg/m}^3$ ) for four hours a day for two weeks; and a group which were injected with a threshold dose (5 mg/kg). The animals were tested every few hours during the first day, then daily from the second to the fourteenth day for the following: condition of the animal; development of clinical indications of poisoning; change in weight; morphological structure of the distal blood; activity of the cholinesterase in the blood, alkaline phosphatase; peroxidase; and also the concentration of glycogen and phospholipids in the leukocytes. The data indicate that a small decrease in

1/2